

How To Grow Good Seed Potatoes

OF the many causes which operate to produce a low average potato yield in this country, poor seed is a very important one. The American potato grower pays too little attention to his seed potatoes. The European growers, especially those of Great Britain and Germany pay very strict attention to the quality and quantity of the seed they use. This has led to a differentiation of the potato industry into seed and crop specialists. The seed specialist makes a business of producing high quality seed, while the crop specialist produces a high grade table potato. No such differentiation, at least to the same extent, occurs in this country. It is true that in certain sections we now have a well developed seed potato growing industry, but comparatively few growers in these sections are paying sufficient attention to the elimination of diseased and unproductive strains or to keeping the variety grown free from mixture with other varieties. It is believed, however, that the time is ripe for demanding a better grade of seed potatoes than is now generally obtained from either seedsmen or growers.

A Vital Question.

The question of what constitutes good seed is a vital one. Pure seed from productive plants not over ripe, uniform in size and shape, firm and sound, with first sprouts just showing at planting time. Seed of such quality, if furnished suitable cultural conditions, will seldom fail to produce a remunerative crop. A conservative estimate of the increase that might be expected from the use of high-grade seeds is certainly not less than 10 per cent.

Comparatively little attention has as yet been given to the subject of the productiveness or unproductiveness of certain strains of plants within a variety. It is believed that this is a very important factor in the production of large yields, as in any variety, if studied closely, many unproductive plants may be found.

The superiority of immature over mature tubers for seed purposes is not as yet recognized by the American potato grower. The European growers, on the other hand, have long realized that, other things being equal, larger crops can be produced from immature seed than from mature seed.

Experiments in England.

Results of experiments conducted in England show a gain in favor of immature seed of more than 100 per cent for table stock.

Uniformity of size and shape is a quality which should receive more thought, and strains of potatoes giving the greatest yield of fair-sized, shapely tubers should be cultivated. It is particularly important at present that such

strains be developed, because there is an increasing demand for fancy table stock to satisfy the requirements of a large and discriminating class of consumers who are insisting on greater uniformity in size and shape and are willing to pay more for such potatoes.

The simplest and surest means of developing high grade seed potatoes is that of the tuber-unit and hill-selection methods. The tuber-unit method consists in selecting from the seed bin a number of the most perfectly shaped tubers of from six to eight ounces in weight. When planted these are quartered, as dropped, into four equal parts. This is done by splitting the bud-eye cluster in each direction from seed to stem out. In other words, the tuber is cut lengthwise.

Should Be Rejected.

All tubers showing discolorations of the flesh or other evidence of disease should be rejected. Plant the four pieces of each tuber consecutively in a row at a distance of from 10 to 12 inches apart in the furrow. By allowing more space between set of four pieces, each tuber is isolated from adjoining ones and the grower can readily observe any variation in vigor and uniformity between the various units planted. By marking those which are most uniform in size, vigor and type when the plants are growing, the first step in selection has been accomplished. At digging time the product of each unit is separately harvested and a further selection made from those which most nearly approach the size, shape and smoothness desired. Only the product of the most desired units should be retained for the following season.

Hill Selection Method.

The further conduct of the work will consist in the multiplication of the selected strains for field planting and the elimination of weak plants. The hill-selection method consists in marketing the most promising plants during the growing season and at harvest time save only those which gave greatest promise. Plant on the tuber-unit basis the following season.

As to the advisability of planting small tubers, a great number of tests in various parts of the country show that the use of large tubers gave a production of over 16 times as great a weight of large tubers as the small tubers produced. The use of small seed potatoes is only permissible when they are known to have been produced by strong, healthy and productive plants. It is never advisable to use small seed tubers from the general mass of unselected stock. Like produces like. If tubers from unproductive or weak plants are used a similar harvest will be reaped.

Potatoes In Europe and America

AMERICAN progress in the development of improved varieties of potatoes has not been satisfactory as compared with the progress of leading European countries, is the statement of the bureau of plant industry of the Department of Agriculture.

The best European varieties possess a better flavor, color and texture, particularly for boiling and frying, but these do not succeed when introduced into the United States. If private growers would engage in this work as they have in Great Britain, Germany and Austria, they would find it a fascinating industry and would undoubtedly make notable achievements.

In America we have much to accomplish in breeding a potato with a greater starch content. Our potatoes are now lower than the German varieties by from 4 to 8 per cent.

Our climatic conditions in America are so diverse that we need varieties of potatoes adapted to special localities. Particularly do we need a heat resistant strain that can more successfully withstand the high summer temperatures. Disease resistance is another quality that has been bred into certain foreign sorts, but is so lacking in ours that we have to quarantine absolutely certain foreign types that might bring disease with them.

The breeding of potatoes for differ-

ent kinds of cooking might even be found profitable. A variety specially suited for baking is needed, another for frying; a close textured tuber is in some demand for salads. The housewife today finds it necessary to waste much good material in preparing her potatoes for the table, particularly the irregular, deep eyed sorts.

The use of commercial fertilizers universal in Germany is unknown in our western potato districts. Certain of our districts in Maine, New York and the Atlantic trucking belt have already found it to their profit to use more fertilizer, and potato growing is most prosperous in these sections. This should become more universal.

Crop rotation is of fundamental importance to the potato crop in controlling diseases and maintaining production, but in the United States only the beginning of an ordered system has been made. Germany has a rotation of from three to seven years between potato crops. Nor has the importance of green manuring yet been fully appreciated in this country.

The problem of securing disease free seed has been met in Germany by an official inspection, which results in certificates being issued only to owners of disease free crops. Such a plan for the United States would be better if carried out by the co-operation of

potato growers' associations, the state experiment stations and the United States Department of Agriculture rather than through legal enactment.

As early as possible provide a lamb creep in each pasture, and give each day all the grain the lambs will eat up clean.

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